Yamaha Motif

Yamaha built a versatile and expandable synth workstation designed to 'sound great'. Richard Clews asks, 'what's my Motif?

Yamaha's new Motif synthesiser is the latest in a long line of innovative and versatile keyboards. Its predecessor, the EX5, was one of the few instruments to combine several synthesis methods 'under the bonnet'. DSP limitations hampered its success, but the EX5 concept has evolved into Yamaha's Plug-in range of DSP boards, which play a substantial role in the new synth's design.

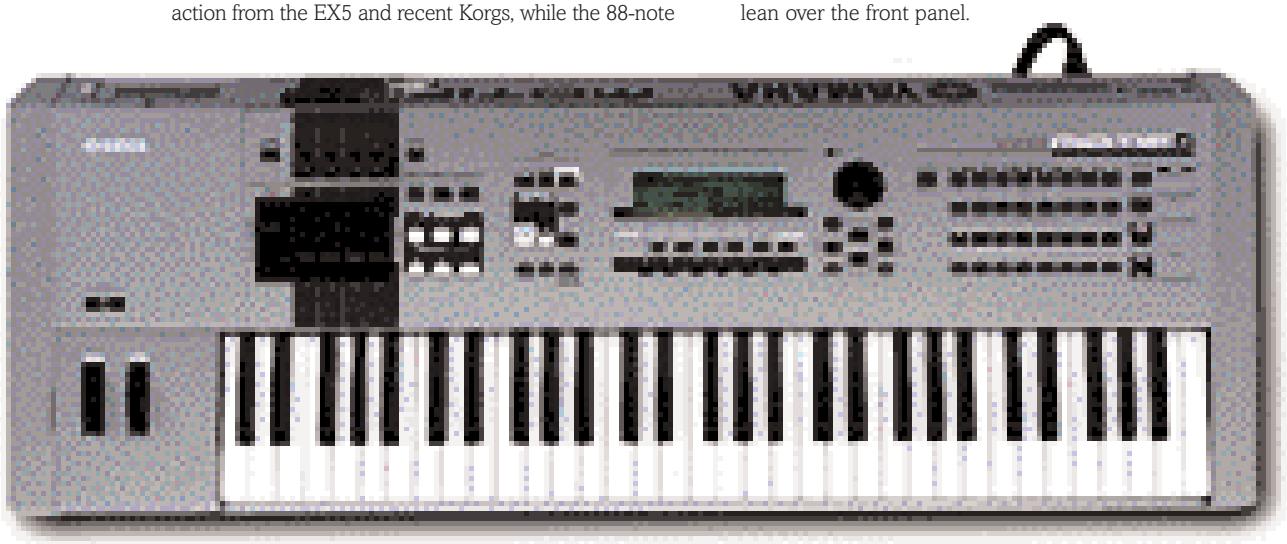
In addition to expandability, the Motif promises to bring sampling, sequencing and synthesis together through its Integrated Sampling Sequencer – a feature shared with the RS7000. The Motif can also control software sequencers from its front panel, a benefit to keyboard players with computer-based studios. Exciting stuff, and an invitation to get motifated [arf! – CH].

In Out, Shake it All About

Visually, the Motif's clean lines and metallic finish give it a distinct identity. There are three keyboard lengths to choose from. The Motif 6 (61-note) and 7 (76-note) use the 'FS' action from the EX5 and recent Korgs, while the 88-note Motif 8 boasts weighted piano-action keys. All keyboards come with aftertouch, but not poly aftertouch, which has sadly gone the way of the thylacine. The Motif 7 used for this test had an excellent keyboard feel, reinforced by the instrument's solid build. At 18kg, the Motif has enough weight to inspire confidence but not damage your back.

Real-time editing is executed with four sliders and four knobs. While each set of controls has 16 assignable functions, the sliders are mainly used for level changes while the knobs adjust filters and envelopes. Heavy duty editing can be carried out with bundled software, and the Motif 7 and 8 have enough space to rest a KAOSS pad or similar Midi controller. Elsewhere, the LCD display is clear, and the number of editing pages has been minimised by 'context sensitive' editing – for example, if you are in Sampling mode and press Edit, you immediately call up Sampling parameters. There's no wading through Voice and Sequencing pages first.

Round the back, the Motif has a full range of connections – stereo, plus two assignable outs, two foot controller inputs, sustain and foot switches, breath controller and A/D input (on 6.5mm jacks). Outputs can be increased with an AIEB1 expansion board (six analogue outs, optical and S/PDIF) or mLAN8E. A ventilated panel gives access to three slots for Plug-in synthesis boards, and SCSI comes as standard. One ergonomic slip is that the outputs are beneath a ledge. Therefore you need to get behind the synth to make connections, rather than lean over the front panel. This could be problematic if you need to swap a faulty cable during a gig.



Inside, there are 384 preset Voices, each comprising up to four AWM2 sample elements, 128 Performances, which combine up to four Voices in splits or layers, and 48 drum kits. A maximum 128 edited Voices and 16 drum kits can be stored internally, while each Performance is already in a 'user' space – edits will overwrite the factory settings. Polyphony is 62 notes, plus the polyphony of any Plug-in

boards installed. Internal sample storage is a maximum 64MB (4MB comes fitted) on 72-pin SIMMS, but this is volatile – you must save data using Smart Media cards or SCSI drives. A useful 'Autoload' feature enables you to load 64MB of data immediately into the Motif when you switch on the power – useful after a power cut, and only takes five minutes.

Integrated Sampling Sequencer

At the core of the Motif is the Integrated Sampling Sequencer. This enables you to bring phrases, arpeggios and samples ('motifs') together and re-arrange them in real-time to create songs. The Motif is not a full sampler – complex multisamples and cross-fades are beyond its capabilities – but you can approach sampling in two ways. In Voice/Performance mode, a sample is saved as a User Voice, which can either be played 'straight', or combined with other Voices in a Performance. This is ideal for tuned sounds such as organs or synths. In Song/Pattern mode, a sample is saved as a Sample Voice and locked to a particular Song or Pattern. It can then be broken up or 'sliced' from this point, making Song/Pattern mode the best for loops and phrases.

Slicing is performed in three ways: 'Beat' for percussive sounds with short decays, 'Phrase' for longer sounds (e.g. cymbals), or 'Quick', which slices regardless of content. Samples can be given Midi notes automatically, which makes light work of sampling loops with different bpms and playing them back in perfect time, as the tempo is now controlled by the sequencer. One drawback of slicing is that new data is created while slices are made, which means slicing can be a slow process and eats into your RAM. The way to minimise this is to install more sample RAM and make sure the loops you sample are as short as possible. As a guide, an eight bar phrase of music (vocals and drums) can take about 2 minutes to process.

The sequencing part of the Integrated Sampling Sequencer has 16 tracks and a 111,000 note capacity. There are two recording modes – Song Record and Pattern Record. Song Record comprises linear and step recording, while Pattern Record gives you replace, overdub and step recording options. Pattern Record is suited to bass line and rhythm creation, and allows easy editing via Pattern Mode Erase – simply press the F6 function key and

Yamaha R&D's Nick Howe offers some more Motif insight.

Nick Howes is one of Yamaha's leading development specialists. Based at the company's R&D centre in London, Nick has worked on voice design and development on many Yamaha instruments, including the Motif (originally called 'Kangaroo'), AN200 and CS6x, and continues to be heavily involved with the SW1000XG soundcard. Recently he kindly agreed to explain the Motif 'mindset'.

Richard Clews: What is the design philosophy behind the Motif?

Nick Howes: Principally it is a high quality performance instrument. While in many respects the EX Series was technically more complex, due to DSP resource limitations it suffered. Principally with slow SCSI, and many 'DSP resource full' errors.

RC: Is the Integrated Sampling Sequencer a derivative of the Loop Divide/Remix function on the A4/5000 samplers?

NH: It features that function, but takes the concept of being able to integrate a new sampled wave with the synthesis architecture and preset ROM waves as seamlessly as possible. It just brings the idea of sampling with synthesis together in a more streamlined manner than in previous synths. The Ensoniq TS series from around 10 years ago had similar concepts, but without the user sampling.

RC: How does the Integrated Sampling Sequencer differ from ReCycle and the Beat Munging on E-mu's samplers?

NH: It's similar in concept to Recycle, however the resampling loop divide functions are, in our opinions, superior in the results they can attain. The creative possibilities provided by them, combined with the ISS engine concept, makes creating new 'musical' sounding loops and phrases much more viable.

RC: Is the arpeggiator meant to rival the Korg Karma, or offer something genuinely different?

NH: Karma is on paper more complex, in that it uses a previously unseen multi-arpeggiator engine. The whole basis behind the Motif arp is making possible 'real performances' that would be too complex for many players. The arpeggiator can produce complex motion results, but playing some of the guitar-based arpeggio types will give you a feel for what we were trying to achieve.

RC: Do you think Yamaha will use Poly VL, FDSP or Fourier Synthesis as the basis for future Motif Plug-ins? When will these synthesis methods evolve?

NH: VL is now in POLY mode in our new software synth. FS is still not really evolved enough for many people, and I would hope that future developments would integrate this further. PLG architecture is a two-channel insert effect or two-channel audio streaming architecture, so implementing FDSP may prove challenging. FDSP was very exciting in that it provided unique sounding instruments, and could create very authentic overlays for more traditional sounding voices, so again I would hope to see more in future.

RC: Do you have any plans to emulate other synths in software, following your success with replicating the Prophet 5? Yamaha's analogue giants should be first on the list.

NH: Indeed. But with so many very good simulations available from companies such as Native Instruments and Waldorf, I think I would rather see Yamaha focus on innovative approaches to synthesis rather than emulative developments.

What we did with AN was great fun, and as Yamaha had a lot to do with Sequential in the late '80s (so to speak!) it seemed a logical one to do. AN is very flexible, and the cross modulation options in the PLG card did give it an extra edge over the AN keyboard. The arrival of the new Kenton Plugstation is rather well timed, as it means that you could have up to seven PLG cards, which would be a staggering synth in anyone's books.

RC: Why do you believe the Motif stands apart from other workstations?

NH: The thing with Motif that we have said from day one is that "it just sounds great", and you can only really appreciate that if you play it. It is not the most complex synth ever built, but then most people don't want that. A lot of time was spent (more than almost any synth I have worked on) getting the voices right – lots of changes were made right up to the last minute, demo songs were carefully done and redone, and sound ordering to create a useful palette was discussed time and time again. In the end, we hope to have got it right.

RC: What sort of developments, regarding customer support and upgrades, are due in the near future?

NH: Motif with mLAN has some exciting possibilities in terms of integration with the computer, and we plan to do some things that have not really been seen before with this architecture. R&D London is planning to release many new sounds over the coming months, and as the OS on Motif is Flash-ROM based, new tricks could be implemented in future. The remote control modes are already proving popular, so that is one area we could expand on..

hold down the notes you want to erase. Once your patterns are finished, you can use Pattern Chain Record mode to arrange your patterns in real time, assigning tempo changes and section muting to separate tracks.

The Motif's arpeggiator adds more real-time control. Arpeggios are classed as a 'sequence' (up/down arpeggios), 'phrase' (riffs and strums), 'drum pattern' (have a guess) or 'control' (tonal changes). With a one to 300 bpm range, 'rippling' effects are possible, as the 'Thips' pattern demonstrates. Arpeggios can be transmitted via Midi, and respond to velocity sensitivity, adding colour to instrument-based patterns. You can create your own arpeggios by recording a phrase to a Song track, and converting it into arpeggio data using the Song Job function. It is also possible to record arpeggios as normal track data in the sequencer, or record on/off commands to trigger an arpeggio as part of a Song.

Soundset City

Speaking of songs, one of the first things to try out on the Motif is the collection of 27 demos. However, these can only be accessed if the Motif has its Auto Demo Load function activated. This is a fairly simple process, but Yamaha should have made things easier. Once loaded, you access the demos in Song Mode. Highlights include: 'ISS Magic', a fully produced song complete with vocals; 'Funk Jam', which shows a Jamiroquai influence; and 'Ethnic', a kind of 'Big Bollywood Beat' creation.

Now to the sounds themselves. Despite the wonders of the Integrated Sampling Sequencer, it is the Motif's sound set which will get players talking – and keep them talking for some time. A generous 84MB of ROM has been cleverly compressed to do justice to the 1309 onboard waveforms, which form the basis of the 384 Voices. These can be accessed with the Bank, Group and Number buttons to the right of the panel, or with the data dial and increment/decrement buttons. Category Search speeds up the selection process, and you can assign the most useful Voices to the Favourites bank.

Most of the sounds are big, with excellent clarity, and do not rely heavily on effects. 'Power Grand' is an outstanding sample of a Yamaha piano, and is accurate across the whole keyboard. 'Early Fusion' is a great Rhodes for Steely Dan worshippers, while 'Touch Clavi' uses the mod wheel for 'wah' control. There are first-rate pipe, reed and Hammond organs, including '16+8+5&1/3', which uses the four sliders as drawbars and the mod wheel for slow/fast Leslie. 'Sweet Flute', 'Stereo Cello' and 'Symphony' (a brass sound) are superlative, and bound to see a lot of use. 'Over the Top' deserves its name – a three-way split of distorted filth, dive-bombs and slide noise, with a clean lead at the top end. Sadly, there's not enough space to describe the wonderful analogue patches, African and Indian combinations, and comforting pads. But a mention must go to the atmospheric and FX-type sounds, including 'I was born', 'KewBrick' and 'Esmeralda' – highly imaginative and something the Motif will become renowned for.

Expandability

The Motif's versatility can be boosted by three Plug-in boards, or seven if you add a Kenton Plugstation. The synth can also playback sounds from Yamaha and Akai CD-Roms (with synth parameters intact), but not E-mu or Roland. However, as the operating system is updateable, this may change. In addition, there is a huge range of filters and high quality effects to play with, including dynamic ring mod, digital turntable and amp simulator effects. There are two insert effects and two global effects per Voice, but in sequence mode only one Voice can keep its insert effects.

The Remote Control function allows you to drive the leading software sequencers from the Motif's front panel, via USB. At present, programs catered for are: (for PC) Cubase VST v5.0, Logic Audio Platinum v4.6, Cakewalk Pro Audio v9.0 and Pro Tools v5.0. The Mac versions can also be controlled, except for Cakewalk Pro Audio. While the functions vary slightly between programs, the Motif's knobs are used for EQ, Pan and Send, while the sliders handle level changes. The sequencer transport, track mute and track select buttons control the same commands in the software. Other control functions are found in Master Mode, where you can configure the Motif as a master keyboard with four zones, and store your favourite settings for each mode of the synthesiser.

Recurring Motif?

The Motif is an extremely adaptable and complex instrument. Trying to explain its capabilities is a mighty task, and one which nearly defeats the confusing instruction manual. It describes things adequately, but in lots of places at once. Thankfully a video manual is on the way, and in the meantime, Motif owners have the motifator.com website to turn to. This is a superb resource that will tell you anything you need to know about the Motif, and many of its competitors. It will also provide free sounds in the near future.

It's good to see a hardware synth that has arrived on time, with no major bugs and full support from its manufacturer. These are not things to be taken for granted, and play a huge part in the effective worth of any instrument. Aside from that, the Motif's Integrated Sampling Sequencer, unparalleled expandability and superior sounds mark it out as one of the best synths in years. Play it as soon as possible.

Thanks to Chris and Paul from Sound Control, and Nick Howes for their assistance with this review.

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- *Yamaha Australia*

Phone: 1800 805413

Web: www.yamaha.co.uk or www.motifator.com

Price

- *Motif 6: $5,495; Motif 7: $6,495; Motif 8: $7,495*